

REMARKS

Applicant has carefully reviewed the Examiner's August 13, 2003, Official Action and respectfully requests reconsideration based on the above amendments and the following comments.

Claims 1-51 remain in the application for consideration. Claim 1 is hereby amended. No new matter has been added. Reconsideration is respectfully requested.

Claims 1-17 were rejected under 35 U.S.C. 112, second paragraph, because the Examiner considered the claim language to be unclear with respect to the role of the user application in the step of "receiving a request" that is recited in this claim. Applicant has therefore amended claim 1 to state that the request is submitted by the user application that is running on the second node to the parallel file system on the second node. This sense of the claim is clear in the parallel apparatus claim (claim 18), which recites "allowing a user application to run on a second one of the nodes, so that when the user application submits a request to the parallel file system on the second node to perform a file operation..." In view of this amendment, claim 1, along with claims 2-17, which depend from claim 1, is believed to meet the requirements of 35 U.S.C. 112.

Claims 1-5, 13, 16-22, 30, 33-39, 47, 48, 50 and 51 were rejected under 35 U.S.C. 102(e) over Murakami et al. (U.S. Patent 6,065,065). Applicant respectfully traverses this rejection. Murakami describes a parallel computer system and file processing method using multiple I/O nodes. In Murakami's system, application programs may be executed by multiple calculation nodes (see, for example, Fig. 13 and col. 7, lines 20-24). Files may be divided into a plurality of partition files, for storage in a plurality of storage devices (for example, col. 3, lines 37-41). Only one calculation node - the master node, however, is able to access the storage devices (Fig. 10 and col. 6, lines 14-24). The other nodes are slave nodes, and receive file information from the storage devices only from the master process on the master node (Fig. 14 and col. 7, lines 62-67).

Claim 1 is drawn to a method for managing data storage, in which a session of a data management (DM) session is initiated on one node in a cluster, and a user application is run on a second node. The present patent application distinguishes DM applications from other user applications, as is explained clearly in the Background of the Invention (page 1, line 24, through page 2, line 4). The present patent application also defines a parallel file system (PFS) explicitly as one that enables all nodes in a cluster to

access the same file data concurrently (page 15, lines 12-14). As recited in claim 1 (as amended) the user application running on the second node submits a request to the PFS on the second node to perform a file operation. In response, a DM event message is sent from the second node to the first node for processing by the DM application.

From the Examiner's remarks regarding claim 1, it appears that the Examiner considers Murakami's I/O node 31 (Fig. 10) to be equivalent to the "first node" recited in this claim, and to perform the step of "initiating a session of a DM application." Murakami, however, makes no explicit reference to data management or DM applications, and is certainly not concerned with DM applications in the sense in which the term is known in the art and defined in the present patent application. Murakami's I/O nodes are used simply for "inputting data to and outputting data from the secondary storage devices" (col. 3, lines 15-17). Murakami neither teaches nor suggests that these I/O nodes run applications - let alone DM applications - or initiate DM sessions, as required by claim 1.

The Examiner then goes on to associate the "second node" of claim 1 with calculation node 1a, and identifies the recited step of "receiving a request" with the "open"

operation of a parallel file in Murakami's system. As Murakami shows in Fig. 10, to initiate opening of a file, node 1a communicates with the master node (1b), which then passes a message to the I/O nodes. In other words, the application running on Murakami's "second node" is not allowed to submit a request to the file system on the second node, as required by the "receiving" step of claim 1. Applicant believes that the amendment made to this claim helps to clarify this additional point of distinction over Murakami.

Thus, Applicant respectfully submits that there are key limitations in amended claim 1 that cannot reasonably be held to read on Murakami's system, and that claim 1 is therefore patentable over Murakami. In view of the patentability of claim 1, claims 2-5, 13 and 16, which depend from claim 1, are believed to be patentable, as well.

Furthermore, notwithstanding the patentability of claim 1, the subject matter of each of the dependent claims in this application is believed to be independently patentable. For example, claim 2 adds the limitation that the DM application session is initiated in accordance with a data management application programming interface (DMAPI) of the parallel file system. In rejecting this claim, the Examiner identifies the DMAPI recited in the claim with metafile 21,

shown in Murakami's Fig. 17. With all due respect to the Examiner's position, Applicant submits that "metafile" and "API" are terms of art with clearly distinct meanings. A metafile is simply a file containing information that describes or specifies another file. An API is the specific method prescribed by a computer operating system or by an application program by which a programmer writing an application program can make requests of the operating system or another application (definitions from "whatis.com"). Murakami neither teaches nor suggests the use of an API, let alone a data management API as recited in claim 2. Thus, claim 2 is believed to be independently patentable.

Similar arguments may be made with respect to the other dependent claims in this application, but they are omitted here for the sake of brevity.

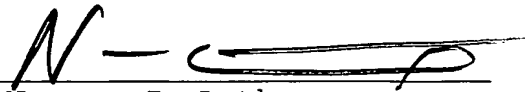
Claims 18 and 35 respectively recite computing apparatus and a computer software product, which operate on principles similar to the method of claim 1. Therefore, for the reasons argued above, claims 18 and 35 are likewise believed to be patentable over Murukami. In view of the patentability of these independent claims, dependent claims 19-22, 30, 33, 34, 36-39, 47, 48, 50 and 51 are believed to be patentable, as well.

Claims 6-12, 14, 15, 23-29, 31, 32, 40-46 and 49 were rejected under 35 U.S.C. 103(a) over Murakami in view of Terry (US 2002/0026605), Goswami (US 2002/0056003) or Haneda (US 2003/0097517). As noted above, in view of the patentability of independent claims 1, 18 and 35, from which these claims depend, Applicant believes these dependent claims to be patentable, as well, over the cited art.

Applicant believes the amendments and remarks presented hereinabove to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of these amendments and remarks, applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

Respectfully submitted,

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